Differential Diagnosis of Oral Lesions

An Interactive Lecture Using Audience Response Polling

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Goals

1. Review the diagnostic process needed to formulate a differential diagnosis
2. Present practical classification ideas to refine clinical diagnoses
3. Formulate differential diagnosis on soft tissue and radiographic lesions

- A properly performed history and clinical examination are the most definitive of the diagnostic procedures.
- Without this critical information the diagnostic process is simply haphazard.
- Clinical pathology is essentially a study of changes that are usually precipitated by pathogenic or disease-producing agents.

* It is essential to have a thorough knowledge of the oral and perioral regions.

The Diagnostic Sequence

- An established approach accomplishes the following:
  - Effective and efficient use of time
  - Identification of all pertinent features
  - High success rate in diagnosis

The Diagnostic Sequence

- Detection of the patient’s lesion
- Examination of the patient
  - Chief complaint
  - Onset and course
  - Etiologic factors
The Diagnostic Sequence

- Classification of the lesion
- Listing the possible diagnoses
- Develop a differential diagnosis
- Develop the working diagnosis/clinical impression
- Final diagnosis – Biopsy and/or response to treatment

Terminology

- Lesion – a zone of tissue with impaired function as a result of damage by disease or wounding.
- Description of a Lesion
  - Size
  - Color
  - Appearance
  - Soft Tissue Consistency
  - Surface Texture
  - Radiographic Appearance

Description of a Lesion

- Size
  - Metric
    - Millimeter (mm)
    - Centimeter (cm)
Description of a Lesion

- **Color**
  - Red, pink, white, blue, black, blue-black, yellow, brown.
  - Can be used to identify specific lesions or be incorporated into general descriptions.
    - “Erythroplakia”
    - “Leukoplakia”

Description of a Lesion

- **Color**
  - Why do white lesions appear white and red lesions appear red?

Description of a Lesion

- **Clinical Appearance**
  - Sessile
  - Macule
  - Papule
  - Pedunculated
  - Lobule
  - Vesicle
  - Bulla
  - Pustule
  - Fistula
  - Ulcerated
Description of a Lesion

- Size
- Color
- Appearance
- Soft Tissue Consistency
- Surface Texture

Description of a Lesion

- Soft Tissue Consistency
  - Palpation
    - Nodule
      - Soft
      - Firm
      - Fluctuant

Description of a Lesion

- Surface Texture
  - Corrugated
  - Fissured
  - Papillary
  - Smooth
  - Rough
  - Folded
  - Ulcerated
Description of a Lesion

- **Surface Texture**
  - Corrugated
  - Fissured
  - Papillary
  - Smooth
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  - Folded
  - Ulcerated

- **Radiographic Appearance**
  - Radiolucent
  - Radiopaque
  - Mixed radiolucent-radiopaque
  - Unilocular
  - Multilocular
  - Well circumscribed
  - Focal
  - Diffuse
The Diagnostic Process

- Collection of Data
  - Historical
  - Clinical
  - Radiographic
  - Laboratory
  - Differential findings
  - Surgical
  - Microscopic
  - Therapeutic

The Diagnostic Process

- Within Normal Limits (WNL)
  - “WNL”
  - “ASSUME”
The Diagnostic Process

- Compilation and processing of information
- Collection of Information

- **Historical**
  - Personal
  - Family
  - Past and present medical history
  - Past and present pharmacologic history
  - History of the presenting disease

- **Personal History**
  - Frequency
  - Duration
  - Intensity

- **Family History**
  - Amelogenesis Imperfecta
  - Dentinogenesis Imperfecta
  - Gorlin Syndrome (Basal Cell-Bifid Rib)
  - Gardner’s Syndrome
Radiographic
- Normal anatomic landmarks
- Abnormalities
  - Radiolucencies
  - Radiopacities

Laboratory
- Blood tests
- Urinalysis
- Microbiologic
- Allergy tests
- Dental tests
  - Vitality
  - Taste
  - Neurologic

Microscopic
- Biopsy specimen
  - Clinicopathologic correlation

Surgical Diagnosis
- Information gained during surgical procedure
  - Aspiration
Therapeutic Diagnosis

* Burning Mouth/Tongue
  - Nutritional
  - Hormonal

Differential Diagnosis
  - The interpretation and use of diagnostic information

The Diagnostic Process

Presentation of Findings

The Diagnostic Process

Presentation of Findings

Variants of Normal
  - Fordyce’s Granules
  - Torus Palatinus
  - Mandibular Tori
  - Racial Pigmentation
  - Ethnic Pigmentation
  - Lingual Varicosities
  - Linea Alba
  - Leukoedema
  - Retrocuspid Papilla
Cysts

- A cyst is an abnormal, pathologic sac or cavity lined by epithelium and enclosed in a connective tissue capsule.
- The most common cyst observed in the oral cavity is caused by pulpal inflammation and is commonly called the radicular cyst.
  - The residual cyst is a radicular cyst that remains after extraction of the offending tooth.

Developmental Cysts

- Odontogenic – related to tooth development
- Nonodontogenic – not related to tooth development
- Intraosseous – occur within bone
- Extraosseous – occur in soft tissue (out of bone)

Oral Differential Diagnosis

- Lower Lip Lesions
- Papillary Lesions
- Ulcers
- Erosive Lesions
- Burning Mouth
- Palatal Petechiae
- Nodules
- Gingival Hyperplasia
- Papules of Face
- Diffuse Lip Swelling
- Lateral Neck Swelling
- Midline Neck Swelling
- Red Lesions
- White Lesions
- Red and White Lesions
- Blue Lesions
- Brown Lesions
- Yellow Lesions
- Red Tongue
- Generalized Pigmentation
- Sialadenosis
- Midline Lesions

- **Red & White Lesions**
  - Carcinoma
  - Dysplasia
  - Lichen Planus
  - Candidiasis
  - Lupus Erythematosus
  - Erythema Migrans
  - Chemical Burn
**Differential Diagnosis of Radiographic Lesions**

- Unilocular Radiolucency
- Multilocular Radiolucency
- Bone Expansion
- Mixed Density
- Radiopacity
- Diffuse Radiolucency/Radiopacity
- Multiple Radiolucencies
- Widened PDL
- Floating Teeth

**Unilocular Radiolucency**

- Odontogenic Cyst/Tumor
- Ossifying Fibroma
- Idiopathic Bone Cavity
- Periapical Cyst
- Developmental Cyst
- Giant Cell Granuloma
- Stafne Defect

**Reference Materials**

1. Differential Diagnosis of Oral and Maxillofacial Lesions (Norman K. Wood and Paul W. Goaz)
2. Oral Soft Tissue Diseases (LEXI-COMP)
3. Oral Hard Tissue Diseases (LEXI-COMP)